

## Section 5 Planning Process

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### 5.1 Interim Final Rule Requirements for the Planning Process

**Requirement §201.6(c)(1):** *[The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.*

**Requirement §201.6(b):** *An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:*

- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;*
- (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia, and other private, and non-profit interests to be involved in the planning process; and*
- (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.*

### 5.2 Description of the Planning Process

This section describes how the Plan was prepared.

### 5.2.1 Data Sources for Plan Preparation

As a condition of the funding that produced this Plan, the City of Galveston used existing data sources wherever applicable and possible. Specifically, the City used data developed in the 2010 Galveston County Plan Update, wherever such data was applicable to a single-jurisdictional plan. In addition, external data sources were also used for this plan, including data developed and provided by

- The Texas General Land Office
- The Bureau of Economic Geology
- Houston-Galveston Area Council
- Texas A&M University - Galveston

### 5.2.2 How the Plan Update was Prepared (Overview)

The City of Galveston Hazard Mitigation Plan was prepared in accordance with the process established in the *State and Local Mitigation Planning How-to Guides* (FEMA Publication Series 386) produced by the Federal Emergency Management Agency (FEMA), and the requirements of the February 26, 2002 Interim Final Rule (IFR). The process established in the FEMA 386 guides includes four basic steps.

- **Step 1:** Organize resources
- **Step 2:** Assess risks
- **Step 3:** Develop a mitigation plan
- **Step 4:** Implement the plan and monitor progress

#### 5.2.2.1 Step 1: Organize Resources

This Plan was developed through a partnership between the City's Emergency Management Coordinator and the Department of Planning and Community Development. At the beginning of the process, a consultant firm, James Lee Witt Associates (Witt Associates), was hired to provide technical support to the City, to facilitate development of the planning process and to produce the plan document. In addition, several individuals and organizations worked together to develop the Plan. These participants were organized into the City of Galveston Hazard Mitigation Plan Stakeholder Committee (HMPSC).

The HMPSC was created by the City's Planning and Community Development staff and approved by the City Manager, and was based on the lists of participants from the previous City planning efforts and those who would have an interest in or information regarding hazard mitigation in the City. The HMPSC was comprised of representatives from agencies and public entities that wished to participate in the planning effort, as well as City Staff with knowledge of the City's risks and vulnerabilities. The duties and responsibilities of the HMPSC consisted of: representing their agency/department's interests, serving as the point of contact for their agency/department, and completing necessary planning tasks, including data collection, identification of local mitigation

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actions, and reviewing the Plan products. The HMPSC identified the most significant City-wide hazards for a risk assessment to be completed.

Table 5.2.2.1-1 lists the invited membership of the City of Galveston HMPSC.

**Table 5.2.2.1-1**  
**City of Galveston Hazard Mitigation Plan Stakeholder Committee (HMPSC) Members**  
**(Source: City of Galveston)**

<b>City of Galveston Hazard Mitigation Plan Stakeholder Committee Members</b>		
<b>Name</b>	<b>Title</b>	<b>Organization</b>
Lyda Ann Thomas	Mayor (Until May 2010)	City of Galveston
Joe Jaworski	Mayor (After May 2010)	City of Galveston
Steve LeBlanc, PE	City Manager	City of Galveston
Charlie Kelly	Emergency Management Coordinator	City of Galveston
Lloyd Rinderer	Assistant City Manager / Risk Management (Until July 2010)	City of Galveston
Wendy O'Donohoe	Director, Planning and Community Development	City of Galveston
David Ewald, CFM	Chief Building Inspector and Floodplain Manager	City of Galveston
Lori Schwarz, AICP	Planning Division Head, Historic Preservation Officer	City of Galveston
Eric Wilson	Managing Director, Municipal Infrastructure	City of Galveston
Angelo Grasso	Public Works Director	City of Galveston
Chief Charles Wiley	Galveston Police Department	City of Galveston
Chief Mike Varella	Galveston Fire Department (Until July 2010)	City of Galveston
Chief Jeff Smith	Galveston Fire Department	City of Galveston
John Gillen	Director, Coastal Assistance, Coastal Resources	Texas General Land Office
Jim Weatherford, PG, CFM	Senior Administrator, Hazard Mitigation Program	Texas General Land Office
Mike Shriner, AIA	Vice-President for Facilities and Campus Services	University of Texas Medical Branch
Lou Muller	Executive Director	Galveston Park Board of Trustees
Steve Cernack / Michael Mierzwa	Port Director / Deputy Port Director	Port of Galveston
Mary Jan Lantz	Director of Human Resources and Risk Management	Galveston College
David Watson	Safety Coordinator	Texas A&M University Galveston
Gina Spagnola	President	Galveston Chamber of Commerce
Jeff Sjtrom	President	Galveston Economic Development Partnership

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City of Galveston Hazard Mitigation Plan Stakeholder Committee Members		
Name	Title	Organization
Hans Hagland	Assistant Manager	Galveston Island State Park / Texas Parks and Wildlife Division
Keith Gray	Service Area Director	CenterPoint Energy
William (Anthony) Cargile	Safety Point of Contact	Texas Department of Transportation

The following partners were invited to participate in the plan development process. No response was received to the City's invitations.

- Shriners Burns Hospital
- Galveston Independent School District
- Galveston Housing Authority
- Village of Jamaica Beach
- Texas Gas
- US Army Corps of Engineers

#### Meeting Schedule

There were several meetings conducted during the development of the Plan. These meetings are described in Table 5.2.2.1-2. The meetings focused primarily on the review of work-in-progress for the development of the Plan. However, in some cases, the meetings were essentially working sessions for identification of potential mitigation projects.

**Note to TDEM/FEMA Reviewers: This table will be completed as events occur.**

**Table 5.2.2.1-2  
City of Galveston HMPSC Meeting Schedule and Summary**

City of Galveston Mitigation Plan Project Meeting Schedule and Summary		
Date	Meeting Name	Meeting Summary
May 19, 2010	Hurricane Open House	Presentation to attendees about the mitigation planning process and how the public can participate – Presented timeline for project completion, including anticipated timeline for public comment – Administered citizen survey, to gather information about awareness and preparedness, to determine where public education could be enhanced
May 20, 2010	HMPSC Kickoff Meeting	First meeting of the HMPSC – Reviewed hazard list and identified those hazards that pose the most significant threat to the City, assets and residents – discussed critical facility designation, treatment of historic structures,

City of Galveston Mitigation Plan Project Meeting Schedule and Summary		
Date	Meeting Name	Meeting Summary
		and capability survey
June 17, 2010	HMPSC 2 <sup>nd</sup> Meeting	Second Stakeholder Committee Meeting – Reviewed hazards to be profiled, and determined final list – Reviewed preliminary risk assessment data, and performed qualitative risk assessment exercise – Determined which hazards profiled would receive quantitative risk assessments
July 15, 2010	HMPSC 3 <sup>rd</sup> Meeting	Third Stakeholder Committee Meeting - Reviewed all risk assessment data – Determined final mitigation goals, objectives and actions to be included in mitigation plan – Prioritized actions using STAPLEE
July 29, 2010	HMPSC 4 <sup>th</sup> Meeting	Fourth Stakeholder Committee Meeting – Reviewed Capability Assessment data and discussed Monitoring and Maintenance plan / schedule - Reviewed final draft of plan – Discussed recommendation to City Council to submit draft to TDEM/FEMA for review and consideration
August 12, 2010	Galveston City Council Meeting	As recommended by Stakeholder Committee, draft plan was presented to Galveston City Council for permission to submit to TDEM/FEMA for review
May 12, 2011	Galveston City Council Meeting	After revisions as required by TDEM/FEMA and a second public comment period, the final draft plan was presented to Galveston City Council for adoption

Appendix D contains documentation for these meetings including agendas, sign-up sheets, presentation materials, and meeting notes as appropriate.

### 5.2.2.2 Step 2: Assess Risks

In accordance with general mitigation planning practice, as well as the process FEMA established in its *How-to Guides*, the risk assessment forms the basis for this Plan by quantifying and rationalizing information about how natural and manmade hazards affect the City of Galveston.

The processes used to complete the hazard identification and risk assessments, and the results of these activities, are described in Sections 6 and 7 of this Plan. The assessment determined several aspects of the risks of hazards faced by the City:

- The hazards that are most likely to affect the City

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- How often hazards are expected to impact the City
- The expected severity of the hazards
- What areas of the City are likely to be affected by hazards
- How the City's assets, operations, people, and infrastructure may be impacted by hazards
- How private and commercial assets, operations, infrastructure may be impacted by hazards
- The expected future losses if the risk is not mitigated

The HMPSC first considered all hazards with the potential to impact the City. An exercise was held at the Kickoff Meeting detailing the hazards considered in other planning efforts, and a listing of additional hazards that could be considered for inclusion in the Plan. Members were asked to consider the hazard history, to consider any other hazards that were not included in the initial listing, and to provide their thoughts on which hazards should be included in the Plan. Next, through examination by and discussion among the members, the HMPSC reduced the initial list of hazards to the 14 hazards that were considered the most relevant for this type of planning process at the City-wide scale. These hazards are described in the Hazard Identification, Profiling, and Ranking portion of the Plan (Section 6), and are as follows:

- Biological Event
- Coastal Erosion
- Coastal Retreat
- Coastal Subsidence
- Drought
- Environmental Disaster
- Extreme Wind
- Flooding
- Hazardous Materials Incident
- Lightning
- Sea Level Change
- Terrorism
- Tsunami
- Wildfire / Urban Fire

These are considered by the HMPSC to represent the predominant risks to the area.

These profiled hazards were further analyzed, to determine the actual risk to the City, citizens and City assets from these hazards. The list was further refined, to analyze those hazards which were determined to pose the most significant risks to the City and its assets. All profiled hazards received a qualitative risk assessment. The hazards selected to receive a quantitative risk assessment were:

- Coastal Erosion
- Extreme Wind
- Flooding
- Hazardous Materials Incident
- Wildfire / Urban Fire

For each of these hazards the consultants performed detailed risk assessments, i.e. calculations of future expected damages, expressed in dollars where appropriate. These results were discussed in detail with the HMPSC at a meeting, and determinations were made as to each hazard's risk to

People Life Safety, Buildings and Critical Facilities, and Infrastructure. The results of the risk assessment were also made available to the public during the public review and comment periods (see Section 5.3). The full process and results of this work is presented in the Risk Assessment portion of this Plan (Section 7).

#### 5.2.2.3 Step 3: Develop the Mitigation Plan

The HMPSC developed a series of goals and objectives in response to the results of the risk assessment. A capability assessment was also conducted to help determine the capacity of the City to implement hazard mitigation projects. The Mitigation Action Plan was discussed and validated by the HMPSC. The results of these efforts are detailed in Sections 8 and 9.

#### 5.2.2.4 Step 4: Implement the Plan and Monitor Progress

Finally, the HMPSC identified a process for on-going monitoring and revisions to the Plan over the next five years. Section 10 details the resulting monitoring, evaluation, and plan update procedures.

### 5.3 Involvement by the Public and Other Interested Parties

#### 5.3.1 Public Involvement in the Plan

##### Public Comment

The Stakeholder Committee provided opportunities for public comment throughout the planning process.

During the process, the HMPSC also held meetings to determine how other agencies could become involved. The Committee was comprised of many different types of agencies in the City including but not limited to: City departments, non-profits, state agencies, educational systems, and authorities. This City-wide group met several times during the process discussing, among other things, the planning requirements, incorporation of data, and data analysis. Comments received during these meetings were used in the formulation of the Hazard Mitigation Plan.

A presentation was made to the public at the start of the mitigation planning process. This presentation was made at the City's annual Hurricane Town Hall meeting. This process outlined the mitigation planning process, and the reasons for developing and maintaining a mitigation plan. The public's role in this process was also described, with anticipated dates for both public comment periods described in the presentation. Finally, the public was asked to participate in a capability assessment survey, to provide information to be used in the final plan document. This presentation can be found in Appendix E.

The City of Galveston does not typically hold meetings to introduce draft plans to the public or to invite comment prior to the final draft of a plan being developed. For the first public comment period, no formal meeting was held. Rather, the draft plan and a comment form were posted to the City's website, with a hard copy available in the City Secretary's office. This comment period began prior to the Plan's submission to TDEM for review, and continued for 30 days. Prior to submission of the Plan for review by TDEM and FEMA, the draft plan was available to the public for comment

for seven (7) days, both via the City's official website and hard copy. Any and all comments received regarding the draft plan will be considered by the Stakeholder Committee prior to recommendation of the final draft to City Council, once it has been reviewed by both TDEM and FEMA.

The HMPSC will hold a public comment meeting after TDEM/FEMA approval, and prior to adoption by the City Council, in order to provide further opportunity for residents, local businesses, neighboring jurisdictions, and all other interested parties to comment. This is in keeping with the City's usual practice regarding draft plans and public comment periods.

### 5.3.2 Other Interested Party Involvement in the Plan

While a portion of the Stakeholder Committee was comprised of City staff and leaders, outside partners and agencies were invited and encouraged to participate in the plan development process. The City recognizes that they rely on outside agencies and organizations, and that these organizations bring valuable information to the mitigation planning process. Invitees to the planning process included neighboring communities, outside agencies, businesses, academia, private non-profits and other interested parties. The following parties were asked to participate in the Plan's Stakeholder Committee:

- Shriners Burns Hospital
- Galveston Independent School District
- Galveston Housing Authority
- Village of Jamaica Beach
- Texas Gas
- US Army Corps of Engineers
- CenterPoint Energy
- The University of Texas Medical Branch
- Galveston College
- Texas A&M University Galveston
- Texas Parks and Wildlife
- Texas General Land Office
- Galveston Economic Development Partnership
- Galveston Chamber of Commerce
- Port of Galveston
- Texas Department of Transportation
- Galveston Park Board of Trustees

## 5.4 Review and Incorporation of Plans, Studies, Reports, and Other Information

### 5.4.1 Federal Government

Selected key federal sources of information and pre-existing planning work are presented in Table 5.4.1-1.



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**Table 5.4.1-1  
Federal Documents and Data Utilized  
(Various Sources)**

<b>Federal Documents and Data Utilized</b>	
<b>Existing Program/Policy/Technical Documents</b>	<b>Method of Incorporation into the Plan</b>
FEMA Disaster Declarations database and other general hazard data	Used in hazard identification and risk assessment (HIRA) development and history of loss data for multiple hazards
FEMA/Nation Flood Insurance Program Flood Maps (Flood Insurance Rate Maps, Digital Flood Insurance Rate Maps (DFIRM))	Used in developing HIRA, strategies, and mitigation actions
FEMA Hazards US (HAZUS) v.1.1	Used in developing various risk assessments and critical facilities inventories
FEMA Benefit Cost Analysis methodology	Used in developing various risk assessments
FEMA Community Status Book, Community Rating System Eligible Communities	Used in developing capability assessments and mitigation actions
FEMA Tornado Activity in the United States	Used in developing HIRA and history of loss data
National Oceanic and Atmospheric Administration (NOAA)/National Climatic Data Center (NCDC) database	Used in developing history and description of major hazard events for multiple hazards
NOAA Coastal Service Center-Historic Hurricane Tracks Database	Used in developing HIRA, strategies and mitigation actions
NOAA National Hurricane Center-Hurricane Preparedness, Storm Surge	Used in developing HIRA, strategies and mitigation actions
NOAA Storm Prediction Center	Used in developing HIRA, strategies and mitigation actions
United States Army Corp of Engineers (storm surge mapping)	Used in developing HIRA, strategies and mitigation actions
United States Census Bureau data	Used in developing various risk assessments and establishing planning context
United States Geological Survey (USGS) National Wetlands Research Center	Used in developing HIRA and loss data
United States Environmental Protection Agency Toxic Release Inventory	Used in developing hazard identification, strategies, and mitigation actions
United States Department of Transportation Hazardous Materials Incident Data	Used in developing hazard identification, strategies, and mitigation actions
US Department of Interior (DOI) Minerals Management Service (MMS)	Used in developing hazard profiles
US Department of Agriculture (USDA) National Fire Plan	Used in developing hazard profiles
National Aeronautic and Space Agency	Used in developing hazard profiles

## 5.4.2 State of Texas

Selected state sources of information and pre-existing planning work are presented in this section.

## 2008 State of Texas Hazard Mitigation Plan

The State of Texas completed the current 2008 State Hazard Mitigation Plan (SHMP) to meet the requirements of IFR Section 201.4(d), which mandates that states update their mitigation plans every three years, “to reflect changes in development, progress in state wide mitigation efforts, and changes in priorities.”

The SHMP is the demonstration of the State of Texas’s commitment to reduce risks from natural hazards and serves as a guide for both state and local decision makers as they commit resources to reducing the effects of natural hazards on lives and property. It is designed to outline a strategy to reduce risks from natural hazards in Texas, and to aid state and local emergency management officials in developing hazard reduction programs.

The State of Texas uses the SHMP as a way to provide data to local and regional governments to support their mitigation planning processes, and to provide guidance on best practices. TDEM staff also is available during the draft plan development to answer any questions or provide guidance and assistance.

The statewide mitigation strategies, goals, and objectives, methods of incorporating a varied cross section of relevant disciplines, hazard specific information, and specific data sources are present within the SHMP and were utilized in the development of the City of Galveston Hazard Mitigation Plan.

### Other State of Texas Information

In addition to the SHMP, selected state sources of information and pre-existing planning work are presented in Table 5.4.2-1.

**Table 5.4.2-1**  
**Other State Documents and Data Utilized**  
(Source: State of Texas)

State Documents and Data Utilized	
Existing Program/Policy/Technical Documents	Method of Incorporation
State of Texas Hazard Mitigation Plan (2008)	Used in development of HIRA.
Data from the Bureau of Economic Geology (University of Texas)	Used in hazard profiling and loss estimation
Data from the Texas General Land Office	Used in development of HIRA, strategies and mitigation actions
Data from the Houston-Galveston Area Council	Used in future development analysis, development of HIRA and strategies
Data from Texas A&M University - Galveston	Used in development of HIRA and community profile

State Documents and Data Utilized	
Existing Program/Policy/Technical Documents	Method of Incorporation
Data from Texas Commission on Environmental Quality	Used in development of HIRA and community profile
Data from the Texas Railroad Commission	Used in development of HIRA
Harris Galveston Subsidence District	Used in development of HIRA

### 5.4.3 City of Galveston

As a municipal government, the City of Galveston has the authority to create ordinances and to control land use. From the City of Galveston's Charter:

City is and shall continue to be a Home Rule City, with full power of local self-government, including the right to amend this Charter, as provided by the Constitution and laws of this State. It shall have all the powers granted to cities by the Constitution and laws of the State of Texas, together with all the implied powers necessary to carry into execution such granted powers. It may use a corporate seal; may sue and be sued; may contract and be contracted with; may cooperate with the government of the State of Texas or any agency or political subdivision thereof, or with the Federal government or any agency thereof, to accomplish any lawful purpose for the advancement of the interest, welfare, health, morals, comfort, safety, and convenience of the City and its inhabitants; may acquire property within or without its corporate limits for any municipal purposes in fee simple, or in any lesser interest or estate, by purchase, gift, devise, lease or condemnation, and subject to the provisions of this Charter, may sell, lease, mortgage, hold, manage, and control such property as may now or hereafter be owned by it; may pass ordinances and enact such regulations as may be expedient for the maintenance of the good government, order, and peace of the City, and the welfare, health, morals, comfort, safety and convenience of its inhabitants; and shall have and may exercise all municipal powers, functions, rights, privileges and immunities of every kind and nature whatsoever, subject only to the limitations imposed by the State Constitution, the State Laws, and this Charter.

Selected key City sources of information and pre-existing planning work are presented in Table 5.4.3-1.

**Table 5.4.3-1**  
**City Documents and Data Utilized**  
(Source: City of Galveston)

City Documents and Data Utilized	
Existing Program/Policy/Technical Documents	Method of incorporation into the Plan
Construction and Building Permits Data	Used in establishing planning context, development of mitigation actions
City GIS database map, infrastructure, parcels, land use	Used to validate data used in risk assessment, future development analysis
Historic Assets Inventory and Data	Used in development of HIRA and mitigation actions
Historic Assets Disaster Recovery plan	Used in development of HIRA and mitigation actions
Comprehensive Plan	Used in establishing planning context
Emergency Operations Plan	Used in hazard identification

City Documents and Data Utilized	
Existing Program/Policy/Technical Documents	Method of incorporation into the Plan
Photographs and plans related to critical facilities	Used in development of risk assessments and mitigation actions
Repetitive Loss /Severe Repetitive Loss (RL/SRL) inventory and data	Used in development of risk assessments and mitigation actions
Website materials (various)	Used in establishing planning context
Capital Improvement Plan	Used in development of risk assessments and mitigation actions
Vulnerability Analyses for utilities (internal and external)	Used in development of risk assessments and mitigation actions

#### 5.4.4 Other Resources

Selected other key sources of information and pre-existing planning work, including regional and academic resources, are presented in Table 5.4.4-1.

**Table 5.4.4-1  
Other Documents and Data Utilized  
(Various Sources)**

Other Documents and Data Utilized	
Existing Program/Policy/Technical Documents	Method of incorporation into the Plan
Galveston Chamber of Commerce data	Used in development of community and hazard profiles
Public Entity Risk Institute-Presidential Disaster Declarations	Used in developing hazard profiling and loss estimation
Right-to-Know Network-biennial reporting, emergency response notification database	Used in developing hazard profiling
Galveston Independent School District data	Used in development of community profile
Galveston Historic Foundation data	Used in development of community and hazard profiles
Website materials (various)	Used in establishing planning context and in development of HIRA
Galveston County Health Department	Used in development of HIRA
Lightning Protection Institute	Used in development of HIRA
<i>Galveston: A History</i> , by David McComb (1986)	Used in establishing planning context and in development of HIRA

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